

Draft Information Note**Cabinet Secretariat**

Title: Muskrat Falls Oversight Committee November 29-31 Site Visits and Meetings

Issue: Update on site visits and meeting with the Independent Engineer (IE), Natural Resources Canada (NRCan) and Nalcor officials.

Background and Current Status:

Meetings and site visits were held with the IE, NRCan, and Nalcor officials during the week of November 28th, 2016. Oversight Committee members (Paul Carter, Cory Grandy and Walter Parsons) participated in sessions as schedules permitted.

Meetings included sessions with updates and questioning on Muskrat Falls Generation, the Labrador Island Transmission Link, including the Strait of Belle Island submarine cable link, and Labrador Transmission Assets. Sites visits included Soldiers Pond and Muskrat Falls Generation.

Analysis:

In most cases, information as presented by Nalcor and as observed during the site visits was as the Oversight Committee understood in relation to the status three subprojects in terms of progress and schedule and without the IE taking any significant exceptions.

The IE team did however raise concerns when mitigation strategies were presented by Nalcor on mediation related to cofferdam leakage and had requested further information and access to Nalcor's experts working on the issue. Up to the point of close out of the meetings, this addition information and/or engagement with the experts had not been provided to the IE team.

During the close out, Nalcor communicated that the information requested was not yet available as the project and design engineering teams were still developing this plan, but that they would forward as this information as it evolved. The IE team reluctantly accepted this and while there were statements made that acknowledged that the Nalcor and contracted design team hold ultimate responsibility for design and mitigation, the IE team was clearly looking to assist in mitigation activities.

When the committee questioned on issues raised in the July IE site visit report related to the cofferdam, the IE explained that due to the fact that water would remain between the groins during closure that it would not be possible to view the riverbed to ensure that no open boulders and/or broken rock was present, therefore there was a possibility that if these circumstances did exist that leakage could be experienced that that appropriate contingencies should have been put in place in preparation for this possibility.

Nalcor advised that these conditions were not observed and that grouting works were available and that appropriate contingencies were put in place specific to the leakage as it was identified. Nalcor did comment however that additional sourcing of services (drilling and grouting) was initiated subsequent

to the leakage occurring. The IE recommendation in the July site visit IE report was that these services should have been secured in advance in preparation for such circumstances should leakage occur.

Oversight Committee members present still question clarity on the root cause of the leakage. If the riverbed was not entirely visible during construction, unequivocal statements such as no open boulders or broken bedrock being observed/encountered or that the cause of the leakage is not related to open boulders or broken rock seem to be further reaching that what information was available to the meeting participants at the time. It is worthy to note that the grouting plan as understood by the Oversight Committee includes both rock grouting of the riverbed and compaction grouting of the till core in the affected areas of the cofferdam.

When discussion on the North Spur occurred and when Nalcor was questioned by the Committee members on observations made by the IE in the July report, the IE commented while certain geological mapping data was being collected, it was within field books rather than being transposed in real time to develop as built models as construction progressed as a normal and standard practice for this type of activity and therefore deficient in this regard. The IE also commented that during his last visit that it was noticed that three of the slurry cut off wall panels that were being installed at the time were sitting on the foundational clay layer rather than being imbedded within it as was the normal installation practice and asked for information related to what was eventually done with these panels.

Committee members recommended that Nalcor provide required information to IE to close these information gaps as soon as possible. Nalcor agreed that they would do this. Subsequently, however, in Nalcor's written response to the Oversight Committee on the July site visit report, Nalcor suggests that its ongoing practice related to geological mapping is in line with accepted industry practice.

Your question on quantification of risk in the event of water and ice in powerhouse?

The site visit to Soldiers Pond was routine and committee members did not observe any significant criticism by the IE team. **The Muskrat Falls site visit... might need to move up in note.**

In concluding the meetings, Committee members sought clarification from the Nalcor and the IE team on alignment on the issues identified in the July site visit report and ongoing delivery the project. While the IE team was more aggressive on the issues of the cofferdam and geological mapping of the North Spur in earlier meetings in the week, there was seemingly reluctant acceptance that the Nalcor and contracted design team hold ultimate responsibility for design and mitigation, but overall the IE team is generally aligned on Nalcor's management of the project. Comments were made that the IE's observations in the July site visit report and comments during the meeting were directed at assisting Nalcor in delivery of the project rather than to take exception to it. The IE team was however unequivocal in its message that the IE team was eager to help and assist to ensure the success of the project. Subsequent to the meeting the Oversight Committee was informed that Alignment....
Email we discussed...

Action Being Taken:

Nalcor be directed that all IE site visit reports as soon as they are received (draft or final) be made available to the Oversight committee through the data room as per normal practice with all other IE reports associated with the project.

Nalcor be directed to ensure all information requested by the IE is made available in a timely matter for both the IE's due diligence purposes related to the project and offer of support to the project.

Nalcor be required to include/copy the Oversight Committee on all project related government briefings from this point go forward.

Nalcor be directed to update the Oversight Committee as soon as new information becomes available on cofferdam repairs and other mitigations to protect project assets at the generation site along with any schedule changes.

Ensure that at least one Committee member participate and remain present in all site visits and meetings which take place.

December 7, 2016